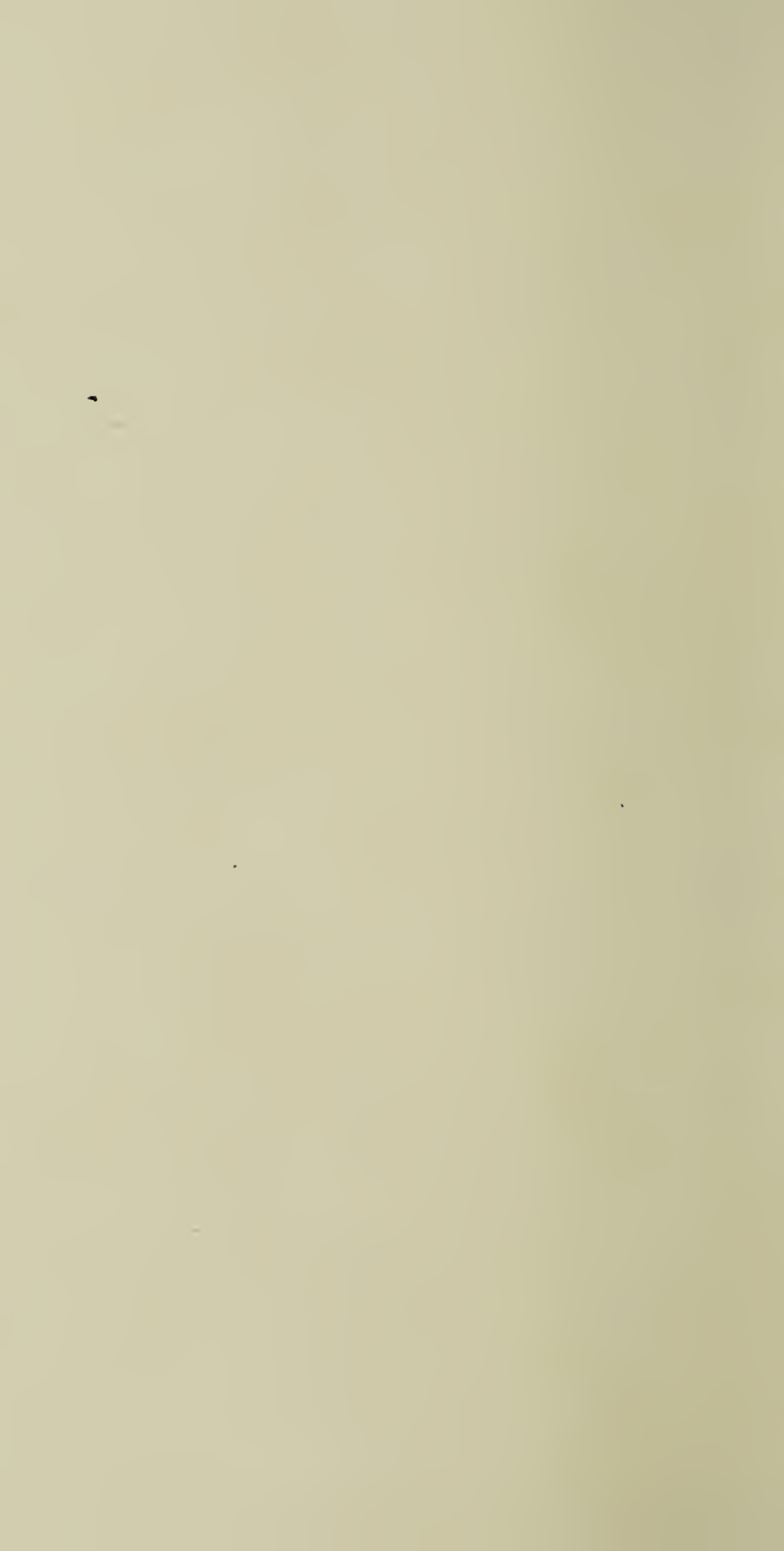


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U. S. Department of Agriculture  
Bureau of Agricultural Economics

Handbook of  
Official Grain Standards  
For Barley

Tabulated and Abridged Description of the Official  
Grain Standards of the United States as established  
and promulgated by the Secretary of Agriculture:  
For Barley, - - Effective August 24, 1926.



(Insert for Handbook U. S. G. S. A. Form No. 90)

NOTE.—For a tabulated and abridged description of the official grain standards of the United States: For wheat, shelled corn, and rye see Handbook U. S. G. S. A. Form No. 90; and for oats, feed oats, mixed feed oats, and grain sorghums see Handbook U. S. G. S. A. Form No. 161.



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## OFFICIAL GRAIN STANDARDS OF THE UNITED STATES FOR BARLEY

For the purposes of the official grain standards of the United States for barley:

**Barley.**—Barley shall be any grain which consists of 50 per cent or more of barley, and contains not more than 25 per cent of cereal grains of a kind or kinds other than barley. The term barley in these standards shall not include hull-less barley.

**NOTE.**—Barley for the purposes of the standards is divided into classes and subclasses as follows: Class I Barley; Class II Western Barley—divided into subclasses (a) Bright Western and (b) Western; Class III Two-Rowed—divided into subclasses (a) Bright Two-Rowed and (b) Two-Rowed; Class IV Black Barley; and Mixed Barley.

**NOTE.**—Barley grown west of the Great Plains area of the United States will be inspected and graded on a “dockage” basis. Barley grown east of the Rocky Mountains will be inspected and graded under a system of grading which does not provide for “dockage.”

## BARLEY (Class I)

This class shall include all white (glumes) barley grown east of the Rocky Mountains and may include not more than 10 per cent of other barley or barleys.

**Grades for barley (Class I).—**The class barley shall be divided into seven grades as follows:

No. 1 Barley.

Special No. 2 Barley.

No. 2 Barley.

No. 3 Barley.

No. 4 Barley.

No. 1 Feed Barley.

Sample Grade Barley.

# BARLEY—Grade requirements for class Barley

Grade	Condition and general appearance <sup>1</sup>	Minimum		Maximum limits of—					
		Test weight per bushel	Sound barley	Heat damage <sup>3</sup>	Oats and wild oats singly or combined	Foreign material	Skinned and broken barley	Barley of other classes	
								Total	Black barley
No. 1-----	May be slightly stained-----	Lbs. 48	P. ct. 95	P. ct. 0.1	P. ct. 3	P. ct. 2	P. ct. 3	P. ct. 5	P. ct. 0
Special No. 2--	May be stained-----	46	92	.2	5	2	6	10	0
No. 2-----	May be stained-----	46	88	.5	8	3	10	10	2
No. 3-----	May be stained or slightly weathered.	43	88	.5	8	4	10	10	5
No. 4-----	May be badly stained or weathered.	40	80	1.0	15	5	-----	10	-----
No. 1 Feed----	-----	35	70	3.0	25	6	-----	10	-----

Sample Grade: Shall be barley which does not come within the requirements of grades No. 1, Special No. 2, No. 3, No. 4, or No. 1 Feed, or which has any commercially objectionable foreign odor, except of smut, or is musty, sour, heating, hot, or contains stones, or is otherwise of distinctly low quality.

<sup>1</sup> The barley in each grade above Sample Grade shall be cool and sweet.

<sup>2</sup> The barley in each grade above Sample Grade may contain not over 14.5 per cent of moisture.

<sup>3</sup> "Heat-damage" includes heat-damaged kernels of barley, cereal grains, or wild oats.

## WESTERN BARLEY (CLASS II)

This class shall include the white (glumes) 6-rowed barley grown west of the Great Plains area of the United States, and may include not more than 10 per cent of other barley or barleys. This class shall be divided into two subclasses as follows:

**Subclass (a) Bright Western.**—This subclass shall include barley of the class Western Barley which has a good color (bright).

**Subclass (b) Western.**—This subclass shall include barley of the class Western Barley which is stained, weathered, or discolored in any manner.

**Grades for Western Barley.**—The subclasses Bright Western and Western shall be divided into nine grades for each subclass as follows:

### FOR SUBCLASS BRIGHT WESTERN

- No. 1 Choice Bright Western.
- No. 1 Bright Western.
- No. 2 Choice Bright Western.
- No. 2 Bright Western.
- No. 3 Choice Bright Western.
- No. 3 Bright Western.
- No. 4 Bright Western.
- No. 5 Bright Western.
- Sample Grade Bright Western.

### FOR SUBCLASS WESTERN

- No. 1 Choice Western.
- No. 1 Western.
- No. 2 Choice Western.
- No. 2 Western.
- No. 3 Choice Western.
- No. 3 Western.
- No. 4 Western.
- No. 5 Western.
- Sample Grade Western.



# WESTERN BARLEY—Grade requirements for subclasses Bright Western and Western

Condition and general appearance for subclasses—(1) (2)			Minimum		Maximum limits of—					
Grade	Bright Western	Western	Test weight per bushel	Sound barley	Heat damaged	Oats, wild oats, and foreign material other than dockage	Skinned and/or broken kernels	Adobe and cinders	Barley of other classes	
	Shall be of—	May be—		Total					Black barley	
				Lbs.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.
No. 1 <sup>3</sup>	Good color---	Slightly stained---	45	98	0	1	<sup>3</sup> 4	0.1	5	0
No. 2 <sup>3</sup>	do-----	do-----	45	96	.1	2	<sup>3</sup> 8	.2	10	0
No. 3 <sup>3</sup>	do-----	Stained-----	42	94	.3	3	<sup>3</sup> 12	.3	10	0
No. 4	do-----	Badly stained or weathered.	39	90	1.0	5	16	.5	10	-----
No. 5	do-----	do-----	36	80	3.0	10	25	1.0	10	-----

Sample Grade: Shall be barley of the subclass Bright Western or Western which does not come within the requirements of any of the grades from No. 1 to No. 5, inclusive, or which has any commercially objectionable foreign odor, except of smut, or is musty, sour, heating, hot, or contains small inseparable stones, or which contains wild brome grasses (*Bromus rigidus* and *B. rubens*) or is otherwise of distinctly low quality.

- <sup>1</sup> The barley in all grades above Sample Grade shall be cool and sweet.
- <sup>2</sup> The barley in all grades above Sample Grade may contain not more than 13.5 per cent of moisture.
- <sup>3</sup> Grades for Choice Bright Western and Choice Western barley: Any barley of this class which meets the requirements for grades Nos. 1, 2, and 3, and which is free from smut, and which contains damaged, skinned, and/or broken kernels not in excess of 2 per cent in grade No. 1, 3 per cent in grade No. 2, and 5 per cent in grade No. 3, shall be designated as No. 1, No. 2, or No. 3, Choice Bright Western, or No. 1, No. 2, or No. 3, Choice Western, as the case may be.

## TWO-ROWED BARLEY (CLASS III)

This class shall include the white (glumes) 2-rowed barley, grown west of the Great Plains area of the United States and may include not more than 10 per cent of other barley or barleys. This class shall be divided into two subclasses as follows:

**Subclass (a) Bright Two-Rowed.**—This subclass shall include barley of the class Two-Rowed Barley which has a good color (bright).

**Subclass (b) Two-Rowed.**—This subclass shall include barley of the class Two-Rowed Barley which is stained, weathered, or discolored in any manner.

**Grades for Two-Rowed Barley.**—The subclasses Bright Two-Rowed and Two-Rowed shall be divided into nine grades for each subclass as follows:

### FOR SUBCLASS BRIGHT TWO-ROWED

- No. 1 Choice Bright Two-Rowed.
- No. 1 Bright Two-Rowed.
- No. 2 Choice Bright Two-Rowed.
- No. 2 Bright Two-Rowed.
- No. 3 Choice Bright Two-Rowed.
- No. 3 Bright Two-Rowed.
- No. 4 Bright Two-Rowed.
- No. 5 Bright Two-Rowed.
- Sample Grade Bright Two-Rowed.

### FOR SUBCLASS TWO-ROWED

- No. 1 Choice Two-Rowed.
- No. 1 Two-Rowed.
- No. 2 Choice Two-Rowed.
- No. 2 Two-Rowed.
- No. 3 Choice Two-Rowed.
- No. 3 Two-Rowed.
- No. 4 Two-Rowed.
- No. 5 Two-Rowed.
- Sample Grade Two-Rowed.

# TWO-ROWED BARLEY.—Grade requirements for the subclasses Bright Two-Rowed and Two-Rowed

Grade	Condition and general appearance for subclasses (1) (2)		Minimum		Maximum limits of—					
	Bright Two-Rowed	Two-Rowed	Test weight per bushel	Sound barley	Heat damaged	Oats, wild oats, and foreign material other than dockage	Skinned and/or broken kernels	Adobe and cinders	Barley of other classes	
	Shall be of—	May be—	Lbs.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	Total	Black barley P. ct.
No. 1 <sup>3</sup>	Good color	Slightly stained	47	98	0.0	1	34	0.1	5	0
No. 2 <sup>3</sup>	do	do	47	96	.1	2	38	.2	10	0
No. 3 <sup>3</sup>	do	Stained	44	94	.3	3	12	.3	10	0
No. 4	do	Badly stained or weathered.	41	90	1.0	5	16	.5	10	—
No. 5	do	do	38	80	3.0	10	25	1.0	10	—

Sample Grade: Shall be barley of the subclass Bright Two-Rowed or Two-Rowed which does not come within the requirements of any of the grades from No. 1 to No. 5, inclusive, or which has any commercially objectionable foreign odor, except of smut, or is musty, sour, heating, hot, or contains small inseparable stones, or which contains wild brome grasses (*Bromus rigidus* and *B. rubens*), or is otherwise of distinctly low quality.

<sup>1</sup> The barley in all grades above Sample Grade shall be cool and sweet.

<sup>2</sup> The barley in all grades above Sample Grade may contain not more than 13.5 per cent of moisture.

<sup>3</sup> Grades for Choice Bright Two-Rowed and Choice Two-Rowed barley: Barley which meets requirements for grades Nos. 1, 2, and 3, and which is free from smut, and which contains damaged, skinned, and/or broken kernels not in excess of 2 per cent in grade No. 1, 3 per cent in grade No. 2, and 5 per cent in grade No. 3, shall be designated as No. 1, No. 2, or No. 3, Choice Bright Two-Rowed, or No. 1, No. 2, or No. 3, Choice Two-Rowed, as the case may be.

## BLACK BARLEY (CLASS IV)

This class shall include all varieties of black barley, and may include not more than 10 per cent of other barley or barleys.

**Grades for black barley.**—The class Black Barley shall be divided into six grades as follows:

- No. 1 Black Barley.
- No. 2 Black Barley.
- No. 3 Black Barley.
- No. 4 Black Barley.
- No. 1 Black Feed Barley.
- Sample Grade Black Barley.

## BLACK BARLEY

### Grade requirements for class Black barley

Grade	Condition and general appearance <sup>1 2</sup>	Minimum		Maximum limits of—			
		Test weight per bushel	Sound barley	Heat damaged (barley, cereal grains, and wild oats)	Oats and wild oats singly or combined	Foreign material	Skinned and broken kernels
No. 1--	May be slightly discolored.	Lbs. 48	P. ct. 95	P. ct. 0.1	P. ct. 3	P. ct. 2	P. ct. 3
No. 2--	May be discolored	46	92	.2	5	2	6
No. 3--	May be discolored or slightly weathered.	43	88	.5	8	4	10
No. 4--	May be badly discolored or weathered.	40	80	1.0	15	5	--
No. 1-- Black Feed.	-----	35	70	3.0	25	6	----

Sample grade: Shall be barley which does not come within the requirements of any of the grades from No. 1 to No. 4, inclusive, or No. 1 Black Feed, or which has any commercially objectionable foreign odor, except of smut, or is musty, sour, heating, hot, or contains stones or is otherwise of distinctly low quality.

<sup>1</sup> The barley in each grade above Sample Grade shall be cool and sweet.

<sup>2</sup> The barley in each grade above Sample Grade may contain not over 14.5 per cent of moisture.



# GRADES FOR MIXED, BLEACHED, GARLICKY, WEEVILY, AND SMUTTY BARLEY

## MIXED BARLEY

**Mixed barley.**—Mixed barley shall be any mixture of barley not provided for in the Classes I to IV, inclusive.

Mixed barley shall be graded according to each of the grade requirements common to the class of the barley which predominates over each other class in the mixture, except that all of the grade requirements in any class as to the maximum percentages of other barleys shall be disregarded. The grade designation of mixed barley shall include, successively, in the order named, the number of the grade (including the word "Special" or "Feed" when applicable), or the words "Sample Grade," as the case may be, the word "Mixed," and, in the order of its predominance, the name and approximate percentage of each class of barley which constitutes 10 per cent or more of the mixture; but if only one class exceeds 10 per cent of the mixture, the name and approximate percentage of that class shall be added to the grade designation, followed by the name and approximate percentage of at least one other class.

## BLEACHED BARLEY

**Bleached barley.**—Bleached barley shall be barley which in whole or in part has been treated by the use of sulphurous acid or other bleaching chemicals.

Bleached barley shall be graded and designated according to the standards applicable to such barley if it were not bleached, and there shall be added to, and made a part of, the grade designation the word "Bleached."

#### **GARLICKY BARLEY**

**Garlicky barley.**—Garlicky barley shall be all barley which has an unmistakable odor of garlic or wild onions, or which contains garlic or wild onion bulblets in a quantity equal to one or more bulblets in one thousand grams of barley.

Garlicky barley shall be graded and designated according to the grade requirements of the standards applicable to such barley if it were not garlicky, and there shall be added to, and made a part of, its grade designation the word "Garlicky."

#### **WEEVILY BARLEY**

**Weevily barley.**—Weevily barley shall be all barley which is infested with live weevils or other insects injurious to stored grain.

Weevily barley shall be graded and designated according to the grade requirements of the standards applicable to such barley if it were not weevily, and there shall be added to, and made a part of, the grade designation, the word "Weevily."

#### **SMUTTY BARLEY**

**Smutty barley.**—Smutty barley shall be all barley which has an unmistakable odor of smut, or which has the kernels covered with smut spores, or which contains smut masses in excess of a quantity equal to 0.2 per cent.

Smutty barley shall be graded and designated according to the grade requirements of the standards applicable to such barley if it were not smutty, except that when the amount of smut present is so great that one or more of the grade requirements of the numerical grades can not be applied accurately, the barley shall be classified as Sample Grade. For all grades there shall be added to, and made a part of, the grade designation, preceding the statement of dockage, if any, the word "Smutty."

**Basis of determinations.**—(a) In the case of barley grown east of the Rocky Mountains, each determination shall be upon the basis of the lot of grain as a whole, including foreign material, wild oats, and cereal grains. (b) In the case of barley grown west of the Great Plains area of the United States each determination of dockage, moisture, temperature, odor, and live weevils or other insects injurious to stored grain shall be upon the basis of the grain including dockage. All other determinations shall be upon the basis of the grain when free from dockage.

**Percentages.**—Percentages, except in the case of moisture, shall be percentages ascertained by weight.

**Percentage of moisture.**—Percentage of moisture in barley shall be that ascertained by the moisture tester and the method of use thereof described in Bulletin 1375, dated February, 1926, issued by the United States Department of Agriculture, or ascertained by any device and method giving equivalent results.



**Test weight per bushel.**—Test weight per bushel shall be the test weight per Winchester bushel, as determined by the testing apparatus and the method of use thereof as described in Bulletin No. 1065, dated May 18, 1922, issued by the United States Department of Agriculture, or as determined by any device and method giving equivalent results.

**NOTE.**—Under regulations pursuant to the United States grain standards Act, licensed inspectors are required to state under "Remarks" in all certificates issued by them for barley, unless issued for an export shipment, the test weight per bushel in terms of whole and half pounds. For this purpose a fraction of a pound when equal to or greater than a half shall be treated as a half, and when less than a half shall be disregarded.

**Dockage.**—In the case of barley grown west of the Great Plains area of the United States, dockage includes weed seeds and other foreign material except cereal grains and wild oats which can be removed readily from the barley by the use of appropriate sieves; also undeveloped, shriveled, and small pieces of barley kernels removed in properly separating the foreign material specified and which cannot be recovered by properly rescreening or recleaning. The quantity of dockage shall be calculated in terms of percentage based on the total weight of the grain including the dockage. The percentage of dockage so calculated, when equal to 1 per cent or more, shall be stated in terms of whole per cent; and when less than 1 per cent shall not be stated. A fraction of a per cent shall be disregarded. The percentage of dockage, so determined and stated, shall be added to the grade designation.

**Foreign material other than dockage.**—In the case of barley grown west of the Great Plains area of the United States foreign material other than dockage shall include all matter other than barley which is not separated from the barley in the proper determination of dockage, except cereal grains and wild oats.

**Foreign material.**—In the case of barley grown east of the Rocky Mountains foreign material shall include all matter other than barley, cereal grains, and wild oats.

**Cereal grains.**—Cereal grains shall include wheat, corn, rye, oats, hull-less barley, emmer, spelt, einkorn, grain sorghums, rice, and cultivated buckwheat.

**Sound barley.**—Sound barley shall be all grains and pieces of grains of barley, including skinned barley, which are not heat-damaged, sprouted, frosted, badly ground-damaged, badly weather damaged, or otherwise distinctly damaged.

**Heat-damaged kernels.**—Heat-damaged kernels shall be grain and pieces of grains of barley, cereal grains, or wild oats, which have been distinctly discolored or damaged by external heat or as a result of heating caused by fermentation.

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